

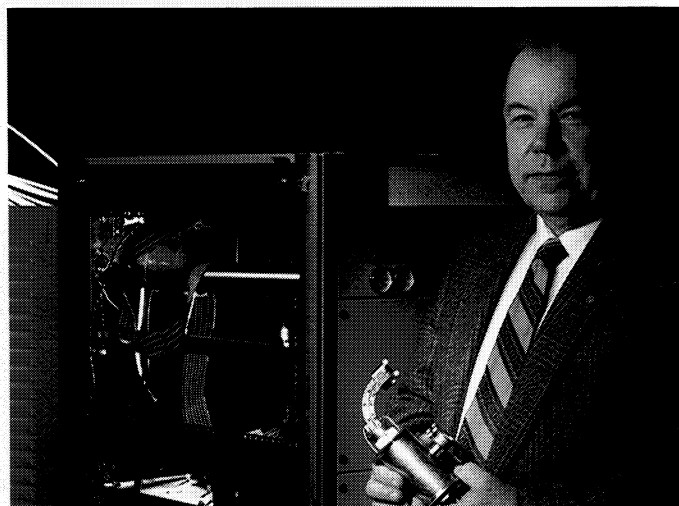
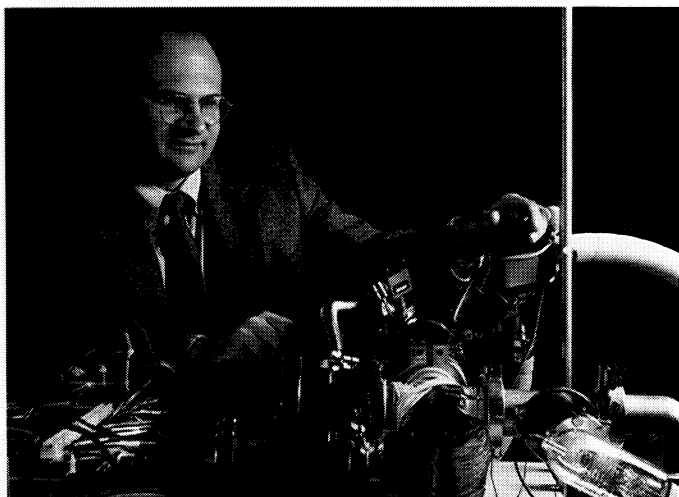
In 1976, two NASA Viking Landers touched down on the surface of Mars, equipped with a variety of systems to conduct automated research. Among this equipment, each Lander carried a compact but highly sophisticated instrument for analyzing the Martian soil and atmosphere.

NASA requirements dictated that the instrument—called a Gas Chromatograph/Mass Spectrometer (GC/MS) and developed by Jet Propulsion Laboratory—be small, lightweight, shock resistant, highly automated and extremely sensitive, yet require minimal electrical power. These same characteristics offer wide utility in Earth applications.

In 1983, Dr. Thomas J. Kuehn and Dr. Russell C. Drew, both of whom have

extensive experience in R&D management, founded Viking Instruments Corporation, Sterling, Virginia to commercialize the GC/MS technology under an exclusive license from NASA. They targeted as their primary market environmental monitoring, especially toxic and hazardous waste site monitoring. Waste sites often contain chemicals in complex mixtures and the conventional method of site characterization—taking samples on-site and sending them to a laboratory for analysis—is time-consuming and expensive. Viking Instruments sees wide acceptance of its Micro GC/MS products (left below) because they combine the power and sensitivity of a laboratory GCMS in a portable, valise-sized package. The first prototype instruments were completed in 1987 and Viking expects to have commercial production prototypes in 1988.

Among other terrestrial applications are explosives detection at airports, drug detection, industrial air monitoring, medical metabolic monitoring and, for the military services, detection of chemical warfare agents. Viking is also planning to develop the technology further for new space applications aboard the Space Station, for example, chemical analysis of experiments or



monitoring crew compartment atmospheres for contaminants.

In the top photo, Dr. Kuehn, Viking executive vice president, is using a laboratory high vacuum system to check out the ion source, a key component of the GCMS. In the lower photo, Dr. Drew, president, stands beside a larger Viking industrial plant monitoring system

that would continuously sample air at multiple points, analyze it and warn of contaminants. ▲

